GOVERNMENT OF INDIA
ENVIRONMENT, FORESTS AND CLIMATE CHANGE
LOK SABHA

UNSTARRED QUESTION NO:1954
ANSWERED ON:14.03.2017
Melting of Glaciers
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Will the Minister of ENVIRONMENT, FORESTS AND CLIMATE CHANGE be pleased to state:

(a) whether glaciers in the Himalayas are melting due to climate change and rise in global temperature and resulting in fragmentation and formation of new glacier lakes;
(b) if so, the reaction of the Government thereto;
(c) whether the Government has conducted any study in this regard, if so, the details and outcome thereof; and
(d) the measures/steps taken by the Government to check flood and loss of human lives due to disasters caused by the melting of glaciers?

Answer

MINISTER OF STATE (INDEPENDENT CHARGE) FOR ENVIRONMENT, FOREST AND CLIMATE CHANGE
(SHRI ANIL MADHAV DAVE)

(a) & (b): As per available observed data, the glaciers in the Himalayas have been, by and large, shrinking in volume and showing a retreating front. Research has shown that Himalayan glaciers have been receding since the end of the Little Ice Age, but the recession has increased its rate during the past few decades. However, the processes of glacier recession are rather irregular in rate, and in amount and time of occurrence. There could be several reasons for the enhanced rate of glacier melting. One of them is decreasing trend of winter precipitation. However, there is no conclusive evidence for an abnormal annual retreat. Evidence for global warming being the causative factor for retreat of glaciers is inconclusive.

(c) & (d): Ministry of Environment, Forest & Climate Change in collaboration with Indian Space Research Organization (ISRO) has carried out mapping of Himalayan glaciers using Indian satellite data during 2004 to 2007. The study shows that there are 34,919 glaciers spread over 75,779 sq. km. in Indus, Ganga and Brahmaputra basins covering Himalaya and Trans-Himalaya including Karakoram region. Further, ISRO has monitored the glacier advance and retreat of 2018 glaciers, across the Himalayan region using satellite data of 2000-01 to 2010-11. The study shows that 87% of glaciers showed no change, 12% glaciers retreated and 1% glaciers have advanced. Himalayan glaciers are monitored as part of a project entitled "Integrated Studies of Himalayan Cryosphere using Space based inputs and Impact Assessment due to Climate Change" funded by the Department of Space.

The National Mission for Sustaining the Himalayan Ecosystem (NMSHE) under the National Action Plan on Climate Change (NAPCC) encompasses conservation measures for sustaining and safeguarding the Himalayan glaciers and mountain ecosystems through establishment of monitoring network, promotion of community based management, human resource development, and strengthening regional cooperation. Major initiatives taken under NMSHE include creation of four Thematic Task Forces on Himalayan Agriculture, Traditional Knowledge systems, Forest Resources and Plant Diversity, and Fauna and Wildlife Habitats.

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